

MYCOLOGICAL RECORDS

3: *CONIOTHYRIUM OVATUM* SWART

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ABSTRACT

Coniothyrium ovatum Swart occurring on leaves of *Eucalyptus leucoxylo*n F.J. Mueller is reported as a new host record and a new fungus record for New Zealand.

Keywords: *Coniothyrium ovatum*; fungi; Coelomycete; *Eucalyptus leucoxylo*n.

INTRODUCTION

A sample of *Eucalyptus leucoxylo*n leaves with small black fungal fruit bodies on both leaf surfaces was sent to New Zealand Forest Research Institute from Napier. The fungus was identified as *Coniothyrium ovatum*, previously known only from Australia (Swart 1986) and South Africa (Crous *et al.* 1989). This is a new host record and a new fungus record for New Zealand.

DESCRIPTION

Pycnidia substomatal, 50–60 µm high and 40–50 µm diameter, subglobose to elliptical, very dark brown to black, with a black cirrus of spores issuing from the mouth of the pycnidium. Cirri collapsing on to the leaf surface when wet and drying to form a crust of spores, forming spots with a black smudgy appearance, generally equally abundant on both upper and lower leaf surface; pycnidia not associated with necrotic lesions or discoloration. **Pycnidial wall** 2–3 cells and 3–4.5 µm thick; cells thick walled, dark brown to black, globose to elliptical. **Conidiogenous cells** annellidic, c. 6 × 6 µm, hyaline. **Conidiospores** ovate, with truncated base and rounded apex, olivaceous brown, finely roughened walls, 10.6–13.6 (–14.3) × 5.3–6.1 µm (Fig. 1).

Specimen examined: on *Eucalyptus leucoxylo*n F.J. Mueller, Napier Boys' High School, Napier, New Zealand, 23.xii.1993, *B.J. Rogan 0117*, NZFRI(M) 3511.

DISCUSSION

Five species of *Coniothyrium* are known from *Eucalyptus* (Sutton 1975, 1980; Swart 1986). Of these *C. kallangurense* Sutton and Alcorn and *C. eucalypticola* Sutton have

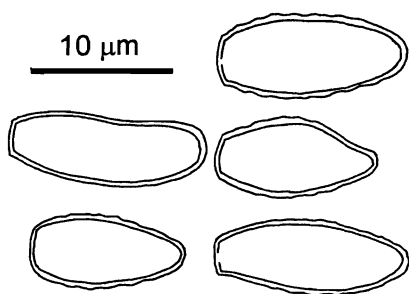


FIG. 1—Conidiospores

globose to subglobose conidiospores, and *C. ahmadii* Sutton and *C. parvum* Swart have conidiospores whose length does not exceed 7 μm , thus excluding the New Zealand collection. The New Zealand fungus best fits the description of *C. ovatum*, although the range of conidiospore measurements exceed those of Swart (1986) and Crous *et al.* (1989) ((6–)7–11 \times 3–4.5(–5) and 7–10 \times 5–6 μm respectively). The slight discrepancy could be accounted for by the nature of the populations from which the samples have

been drawn. Swart sampled an endemic population from a small area of its possible range and the species description may not take the full variation into account. Swart noted in his discussion on *C. ovatum* and *C. parvum* that the distinction between these two species was made on conidiospore size. He also noted that one collection was intermediate between the two species and speculated that if further intermediate measurements were found, it would be necessary to amalgamate *C. ovatum* and *C. parvum* into one extremely variable species. The South African population of *C. ovatum* may be derived from one or more chance introductions from an unknown source. The population could have a limited phenotype derived from a part of the endemic Australian population that was not included in the original species description. This may also be true for the New Zealand population.

Crous *et al.* (1989) indicated that *C. ovatum* in South Africa causes irregular, dark purple to black lesions on the upper leaf surface and light to dark brown lesions on the lower surfaces of immature leaves of young growth and lower branches of mature trees. No such lesions were noted by Swart, and in the New Zealand material the pycnidia were not associated with necrotic spots or leaf discolouration. Different hosts, environments, and possibly pathogen genotypes could cause variation in disease expression. Despite the association with lesions in South Africa, *C. ovatum* is not considered to be of economic importance in any of the three countries in which it is known.

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